

REMARKS

Status of the Claims

Claims 1, 4-7, 10-17 and 26-30 are pending, with Claims 1, 15 and 28 being independent. Claims 10-14 have previously been withdrawn from consideration, and Claims 2, 3, 8, 9, and 18-25 have previously been canceled without prejudice. Claims 1, 15, and 28 have been amended. Support for the claim changes can be found in the original disclosure, for example, in Figures 2, 7, and 8, and the accompanying description in the specification, and therefore no new matter has been added.

Requested Action

Applicant respectfully requests the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

Claim Rejections

Claims 1, 7, 15, 17 and 26-30 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,324,217 (Gordon), in view of German Patent Application Publication 10,035,109 (Cho et al.), relying on U.S. Patent No. 6,956,971 for translation, and “MPEG-2 Compliant Trick Play Over a Digital Interface” (van Gassel et al.). Claims 4-6 and 16 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gordon in view of Cho and further in view of Japanese Patent Application Publication 2000-050263 (Asada et al.).

In response, while not conceding the propriety of the rejections, independent Claims 1, 15, and 28 have been amended. Applicant submits that as amended, these claims are allowable for the following reasons.

Independent Claim 1 relates to an image processing apparatus for encoding input motion-image data by using intra-frame coding and inter-frame coding, and encoding input still-image data as pictures for a predetermined period of time by using the same encoding method as the encoding method of the motion-image data. The apparatus comprises a quantization unit, a control unit, and an encoding unit. The control unit is configured to control a quantization method in the quantization unit so that a quantization step becomes smaller than a quantization step for motion-image data when still-image data stored in a still-image-data memory unit is quantized. The encoding unit is configured to generate intra-frame coded data and inter-frame coded data from still-image data quantized by the quantization unit, and generate from one still image, a plurality of groups of pictures in which each group of pictures includes the intra-frame coded data and a plurality of the inter-frame coded data. In addition, the encoding unit generates the inter-frame coded data, which includes bi-directionally predictive frames, by encoding a difference between the input still-image data and predicted data converted from the generated intra-frame coded data and inter-frame coded data previously, and sets a start group of pictures among the generated plurality of groups of pictures as a closed group of pictures.

Claim 1 has been amended to recite an input unit configured to receive motion-image data and still-image data.

Claim 1 has also been amended to recite a control-signal receiving unit configured to receive a still-image-recording control signal indicating that still-image recording rather than motion-image recording is to occur.

Claim 1 has further been amended to recite a still-image-recording control circuit controlling actuation of still-image recording in response to receipt of a still-image-recording control signal by the control-signal receiving unit.

Also, Claim 1 has been amended to recite a still-image-data memory unit configured to store the input still-image data input by the input unit in response to an instruction from the still-image-recording control circuit and continuously output the stored input still-image data during a predetermined period.

Further, Claim 1 has been amended to recite a circuit having a switch that is controlled to provide the still-image data continuously received from the still-image-data memory unit in place of the motion-image data, in response to the instruction from the still-image-recording control circuit.

By this arrangement, the encoder of the present invention is capable of encoding both a still image and a motion image by using a same encoding format and switching between motion image encoding and still image encoding according to a still image recording instruction.

In contrast, the citations to Gordon, Cho et al., and van Gassel et al. are not understood to disclose or suggest a moving-picture and still-picture encoder that can switch between moving image encoding and still image encoding according to a still-image recording instruction.

Therefore, these citations are not understood to disclose or suggest an input unit configured to receive motion-image data and still-image data, a control-signal receiving unit configured to receive a still-image-recording control signal indicating that still-image recording rather than motion-image recording is to occur, a still-image-recording control circuit controlling actuation of still-image recording in response to receipt of a still-image-recording control signal by the control-signal receiving unit, a still-image-data memory unit configured to store the input

still-image data input by the input unit in response to an instruction from the still-image-recording control circuit and continuously output the stored input still-image data during a predetermined period, and a circuit having a switch that is controlled to provide the still-image data continuously received from the still-image-data memory unit in place of the motion-image data, in response to the instruction from the still-image-recording control circuit, as recited by amended Claim 1.

Rather, the van Gassel et al. publication appears to be limited to encoding motion-image data. The Gordon patent appears to disclose either the processing of still-image data (see Figs. 1 and 2 where the only image data that is input into the frame encoder 110 appears to be still-image data, and col. 2, line 66 through col. 3, line 11, which states that the “invention will be described within the context of a movie information screen (MIS) generator suitable for processing, e.g., a still image.”) or the processing of video data (col. 3, lines 6-11, which states that it “will be readily recognized by those skilled in the art that the teachings of the present invention have a much broader applicability. For example, the present invention may be advantageously employed to efficiently encode very low frame rate video images in, e.g., video telephony and other applications.”). There does not appear to be any teaching in this patent of an apparatus that can process both still-image and video data and switch between them as recited by amended Claim 1. And while the Cho patent is understood to disclose an encoder that receives motion-picture data and still-image data, such as is shown in Figure 9, there does not appear to be disclosed a circuit having a switch that is controlled to provide the still-image data continuously received from the still-image-data memory unit in place of the motion-image data, in response to the instruction from the still-image-recording control circuit, and a quantization unit configured to quantize still-image and motion-image data received from the circuit, as recited by amended Claim 1.

Since amended Claim 1 recites at least one feature not understood to be disclosed or suggested by the citations to Gordon, Cho et al., and van Gassel et al., Applicant submits that the Office has not yet established a prima facie case of obviousness against amended Claim 1. Therefore, Applicant respectfully requests that the rejection of Claim 1 be withdrawn. And since independent Claims 15 and 28 have been amended in a similar manner, they are submitted to be allowable for similar reasons. Therefore, Applicant respectfully requests that the rejection of Claims 15 and 28 be withdrawn.

Applicant also respectfully requests that this Amendment After Final be entered. This Amendment was not presented earlier as it was earnestly believed that the claims on file would be found allowable. Given the Examiner's familiarity with the application, Applicant believes that a full understanding and consideration of this Amendment would not require undue time or effort by the Examiner. Moreover, Applicant submits that this Amendment places the application in condition for allowance. Accordingly, entry of this Amendment is believed to be appropriate and such entry is respectfully requested.

The dependent claims are also submitted to be patentable, due to their dependency from the independent base claims, as well as due to additional features that are recited. Individual consideration of the dependent claims is respectfully solicited.

Conclusion

In view of the above amendments and remarks, the application is now in allowable form. Therefore, early passage to issue is respectfully solicited.

Any fee required in connection with this paper should be charged to Deposit Account No. 06-1205.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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